GROUNDWATER TREATMENT SYSTEM
QUARTERLY MONITORING REPORT
FOURTH QUARTER 2002

AMERICAN CHEMICAL SERVICE NPL SITE
GRIFFITH, INDIANA

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Prepared For:

American Chemical Service NPL Site RD/RA Executive Committee
Griffith, Indiana

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Prepared For:

American Chemical Service NPL Site RD/RA Executive Committee
Griffith, Indiana

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1.0 INTRODUCTION

MWH, on behalf of the ACS RD/RA Executive Committee, started up the on-site groundwater treatment system at the American Chemical Service NPL Site (ACS Site) in Griffith, Indiana on March 13, 1997. The groundwater treatment plant (GWTP) system was designed to treat groundwater from the Perimeter Groundwater Containment System (PGCS) and the Barrier Wall Extraction System (BWES). The original treatment consisted of a phase-separator for oil and free product removal, equalization tanks, a UV oxidation unit for destruction of organic constituents, and an air stripper to remove methylene chloride and other organics. The treatment also included a chemical precipitation and clarification unit to remove metals, a sand filter to remove suspended solids, and activated carbon vessels for final polishing of the treated groundwater before it was released to the west of the site.

In 2001, an activated sludge treatment unit was added to the process to reduce the volatile and semivolatile organic compounds (VOCs and SVOCs) in the collected groundwater. The activated sludge treatment process also reduces the amount of activated carbon required to treat the water. An aerated equalization tank was also added to the GWTP in 2001 to remove VOCs from the collected groundwater, oxidize metals to increase metals removal efficiency in the chemical precipitation unit, and equalize groundwater flow through the GWTP. The activated sludge system and aeration tank have been fully integrated into the process along with the other upgrade components. Startup and optimization of the catalytic oxidizer/scrubber air treatment unit was also conducted during 2001.

MWH began eight initial rounds of off-gas sampling of the catalytic oxidizer/scrubber described in the PSVP during April 2002. The eight rounds of sampling were completed during the third quarter 2002. One sample was collected in October 2002 to verify the continued performance of the system. The off-gas was also sampled in December 2002 after repairs were made to the catalytic oxidizer/scrubber unit to ensure the unit was working properly.

The treated effluent from the treatment system is discharged to the nearby wetlands, west of the treatment system, in accordance with Agency approvals. This Groundwater Treatment System report summarizes effluent analytical data, catalytic oxidizer/scrubber off-gas analytical data, and water level gauging data collected from October 2002 through December 2002. This report also details modifications or upgrades to the GWTP during the reporting period.

2.0 COMPLIANCE MONITORING

2.1 INTRODUCTION

Effluent samples are collected on a regular schedule from the treatment system to demonstrate compliance with the discharge limits (Table 2.1) established by Indiana Department of Environmental Management (IDEM) and United States Environmental Protection Agency (U.S. EPA). The approved Performance Standard Verification Plan (PSVP) requires quarterly effluent sampling for biological oxygen demand (BOD), total suspended solids (TSS), SVOCs, metals, and polychlorinated biphenyls (PCBs) in the system, and monthly effluent sampling for pH and VOCs, as shown in the table below.

During the past several years as the water treatment system has been modified and optimized, MWH has conducted sampling and analysis of all discharge regulated compounds on a monthly basis to maintain a closer documentation of system performance. The water treatment components are now functioning efficiently and showing stability in operation. Therefore, on June 5, 2002, MWH distributed a memorandum to the Agencies recommending that the sampling frequency be reduced to a monthly timeframe for volatile organic compounds (VOCs) and pH, and a quarterly timeframe for all other analytes, as specified in the PSVP. The Agencies approved the recommendation and in accordance with this plan, a full monthly effluent compliance sample was collected during October and analyzed for all of the analytes listed above. During November and December, the monthly effluent compliance samples were analyzed for VOCs and pH only.

Sampling and analyses were performed in accordance with the Quality Assurance Project Plan (QAPP) prepared by MWH for the ACS RD/RA Executive Committee in March 2001 and approved by the Agencies in November 2001. Quality control measures were also instituted in accordance with the PSVP and QAPP. The following table and paragraphs present details on sampling and analyses, and also summarize the analytical data for the treatment system effluent.

Sampling Frequency Schedule – Groundwater Treatment System

Analytes	Cumulative Time From Startup*	Frequency
Flowrate	–	Continuous
BOD, TSS, SVOCs and Metals	181 days onward	Once per quarter
VOCs and pH	31 days onward	Once per month
PCBs	181 days onward	Once per quarter
PCBs in Sediment (one location)	–	Once per year

*Note: System was started up on March 13, 1997

2.2 EFFLUENT SAMPLING AND ANALYSES

Effluent samples were collected each month during the fourth quarter 2002. Samples were collected on the following dates and analyzed for the listed analytes for this reporting period:

October 24, 2002	full analysis (pH, TSS, BOD, Metals, VOCs, SVOCs, pentachlorophenol, and PCBs)
November 26, 2002	pH and VOCs
December 17, 2002	pH and VOCs

The above samples were collected directly from a sample tap on the effluent line of the treatment system. The samples were placed in contaminant-free containers, in accordance with the U.S. EPA Specifications and Guidance for Obtaining Contaminant-Free Sample Containers (U.S. EPA, 1992). Appropriate sample containers and preservatives, as specified in the QAPP, were used to collect and preserve the samples. Following sample collection, the sample containers were refrigerated at or below 4° C in coolers. Chain-of-Custody forms were prepared to track the transfer of samples from the treatment system to the laboratories. In accordance with the approved QAPP, the effluent water samples were analyzed for the following parameters by the following analytical methods:

Parameter	Analytical Method
VOCs	SW-846 8260B
SVOCs	SW-846 8270C
Pentachlorophenol	SW-846 8270C and SIM
Pesticides/PCBs	EPA 608/SW-846 8081/8082
Metals (Excluding Mercury)	SW-846 6010
General Water Quality Parameters (TSS and BOD-5)	EPA 160.2 and 405.1
Mercury	SW-846 7470
pH	EPA 150.1

2.3 EFFLUENT ANALYTICAL RESULTS

The GWTP effluent monitoring data, summarized in Table 2.2, verify that the system effluent was compliant with the discharge limits presented in Table 2.1. No exceedences were reported. The analytical data sheets for the compliance samples are provided in Appendix A.

Compuchem Laboratory of Cary, North Carolina performed the analysis of the samples. Laboratory Data Consultants (LDC) of Carlsbad, California performed third party data validation in accordance with the U.S. EPA National Functional Guidelines for Organic/Inorganic Data Review. Validation qualifiers are listed in Table 2.2 and are written in the margin of the analytical data sheets provided in Appendix A.

2.4 CATALYTIC OXIDIZER/SCRUBBER OFF-GAS SAMPLING AND RESULTS

Off-Gas Sampling

Influent and effluent off-gas samples were collected from the catalytic oxidizer/scrubber unit (ME-106) in the GWTP two times during the fourth quarter of 2002. Samples were collected on October 17 and December 18. The October sample was collected to further verify the continued performance of the system. Maintenance was performed on the catalytic oxidizer/scrubber unit in December and the December sample was collected to confirm that the unit was operating properly.

The samples were collected directly from a sample tap on the influent and effluent lines of the catalytic oxidizer/scrubber. One influent sample (labeled IN1) and one effluent sample (EF1) were collected. A duplicate influent sample (IN2) was also collected. The samples were collected to comply with the PSVP and QAPP and in accordance with the QAPP and laboratory guidelines. The VOC samples were collected using a summa canister and the SVOC samples were collected in sorbent tubes.

Following sample collection, the SVOC sample containers were maintained at or below 4°C in coolers. Chain-of-Custody forms were prepared to track the transfer of samples from the treatment system to the laboratories for extraction and analysis. In accordance with the approved QAPP, the off-gas samples were analyzed for the following parameters by the following analytical methods:

Parameter	Analytical Method
VOCs	TO-14
SVOCs	TO-13

Sampling Results

The influent and effluent off-gas data summarized in Tables 2.3 and 2.4, verify that the off-gas from the catalytic oxidizer was less than the IDEM discharge limit of three pounds of VOC discharge per hour throughout the quarter. For example, the VOC discharge reported from the October 17, 2002 sample was 0.09 pounds per hour, approximately 3 percent of the discharge limit. The analytical data sheets for the compliance samples are provided in Appendix B.

As the data from rounds one through eight indicated, the catalytic oxidizer is consistently operating within it's permitted requirement of discharging less than three pounds of VOCs per day. The data from additional sampling provided further verification of this conclusion. Therefore, the catalytic oxidizer will be sampled annually, in accordance with the PSVP and the applicable IDEM regulations. The next sample is tentatively scheduled to be collected during June 2003.

Air Toxics Laboratories of Folsom, California analyzed the samples. The analytical results are summarized in Tables 2.3 and 2.4. MWH performed data validation in accordance with the QAPP and the National Functional Guidelines for Organic/Inorganic Data Review.

Validation qualifiers are listed in Tables 2.3 and 2.4 and are written in the margin of the analytical data sheets provided in Appendix B.

3.0 TREATMENT SYSTEM PROCESS MODIFICATIONS

During the fourth quarter of 2002, minor modifications were made in the GWTP treatment system process. During October 2002, the GWTP was shut down in order to remove sludge from Tank T-2. This was done in preparation for installing the heat exchanger discussed in the Third Quarter Monitoring Report.

During November 2002, the heat exchanger was installed in Tank T-2. The heat exchanger pump system receives heated water from the in-situ soil vapor extraction system thermal oxidizer/scrubber. The heat exchanger was manufactured by Omega Thermo Products.

Pump control and monitoring equipment were installed in monitoring wells MW-10C and MW-56 and operation of the pumping system began at approximately one gallon per minute.

The catalytic oxidizer system pressure differential alarm system signaled in December 2002. The catalyst was investigated and cleaned out using high-pressure air. Following this maintenance, the catalytic oxidizer has been running properly. An off-gas sample was collected to monitor the catalyst performance following the maintenance activity. The GWTP was shut down for one day during December in order to change out the spent granular activated carbon.

4.0 PGCS AND BWES GAUGING ACTIVITIES

The Perimeter Groundwater Containment System (PGCS) trench groundwater extraction wells were operated in "auto" mode continuously throughout the fourth quarter 2002. In "auto" mode, the PGCS extraction wells will pump continuously unless there is a high water level in Aeration Equalization Tank (T-102) or a low water level in individual extraction wells. This mode is used to control the flowrate through the treatment system while at the same time creating an inverse gradient along the PGCS trench. The GWTP also received influent from the Barrier Wall Extraction System (BWES) during the fourth quarter 2002.

In accordance with the PSVP for the Site, a discussion on the effect of the PGCS and BWES on the water table near the Site is presented in each quarterly monitoring report. This section summarizes the groundwater elevations at the site during October, November, and December 2002. Groundwater elevation measurements were collected throughout the Site on December 5, 2002 as part of the groundwater monitoring program. The groundwater elevations and resulting contours outside the barrier wall are shown in Table 4.1 and on Figure 4.1. The water table contours shown on Figure 4.1 indicate that the PGCS continues to create a "trough" in the water table, which acts to contain groundwater flowing around the northern edge of the barrier wall.

The barrier wall was constructed to contain a contaminated zone under the Site and the BWES was installed to collect the impacted water within the barrier wall. Piezometers were installed in pairs, one on each side of the barrier wall, spaced along the barrier wall alignment, to monitor the difference in water level inside and outside the barrier wall. Table 4.1 presents the groundwater elevations inside and outside the barrier wall on December 5, 2002. These water levels are also plotted on Figure 4.2. One barrier wall pair, P105/P106, could not be located due to the frozen ground the day of water level measurement. The collected data shows that groundwater elevations inside the barrier wall generally range from 2.78 feet to 7.48 feet lower than the water levels outside the barrier wall.

Water levels are shown to be slightly higher inside the barrier wall at one location, piezometer pair P107/P108 at the northern edge of the Site. This not unexpected, because it is known that the extraction capacity is more limited and the infiltration is potentially higher in this area than across the rest of the ACS Plant. In the original design, there was no plan to extend the barrier wall all the way to the northern fence line of the ACS facility. However, as the barrier wall was being constructed along an alignment approximately 200 feet south of the north fence line, the trencher encountered buried debris and drum carcasses. A decision was made to extend the barrier wall to the northern fence line, leaving the debris and carcasses inside the barrier wall. In the meantime, however, a leg of the barrier wall had been extended approximately half way across the ACS Site from east to west, 200 feet south of the fence line.

The drums and debris were removed during the On-Site Containment Area drum removal in 2001. After the drum removal the excavation was filled with clean coarse-grained gravel. However it has not been covered with low permeability material. Therefore, the infiltration of precipitation is likely higher in this area.

The uncompleted leg of the barrier wall extending half way across the site acts as a partial barrier between the drum removal area and BWES Extraction Trench #18. The combination of the reduced extraction efficiency and higher infiltration in this area causes the higher water level that is observed at P-108.

The data demonstrates that the barrier wall is successfully performing the intended function of isolating and protecting the groundwater from the known source areas of the Site inside the barrier wall. MWH will continue to collect regular water level measurements across the Site as required in the PSVP.

As part of the optimization of the GWTP and BWES upgrades, MWH began active dewatering of the Off-Site Area through increased groundwater pumping rates on September 25, 2001. To keep track of the dewatering progress inside the barrier wall, water levels were collected from the various piezometers and air sparge (AS) wells on a regular basis, as shown in Table 4.2. Water levels regularly were measured at seven piezometers in the On-Site Area regularly throughout the quarter (P29, P31, P32, P36, P49, P106, and P108) and at seven piezometers and three air sparge wells in the Off-Site Area (P96, P110, P112, P113, P114, P116, P118, AS-7, AS-8, and AS-9). The water level data from these piezometers are depicted graphically on Figures 4.3 and 4.4, which also reference the target water levels for each area. The target water levels were established to enhance the operation of the in-situ soil vapor extraction (ISVE) system.

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Table 2.1
Groundwater Treatment System Effluent Discharge Limits
American Chemical Service NPL Site
Griffith, Indiana

Groundwater Quality Parameter	Effluent Standard (Limit)
General Water Quality Parameters	
PH	6 - 9 S.U.
BOD-5	30 mg/L
TSS	30 mg/L
Inorganics	
Arsenic	50 µg/L
Beryllium	NE
Cadmium	4.1 µg/L
Manganese	NE
Mercury	0.02 µg/L (w/DL = 0.64)
Selenium	8.2 µg/L
Thallium	NE
Zinc	411 µg/L
Volatile Organics	
Acetone	6,800 µg/L
Benzene	5 µg/L
2-Butanone	210 µg/L
Chloromethane	NE
1,4 – Dichlorobenzene	NE
1,1 – Dichloroethane	NE
1,2 – Dichloroethene – cis	70 µg/L
Ethylbenzene	34 µg/L
Methylene chloride	5 µg/L
Tetrachloroethene	5 µg/L
Trichloroethene	5 µg/L
Vinyl chloride	2 µg/L
4 – Methyl - 2 – pentanone	15 µg/L
Semi-Volatile Organics	
bis(2 – Chloroethyl) ether	9.6 µg/L
bis(2 – Ethylhexyl) phthalate	6 µg/L
Isophorone	50 µg/L
4 – Methylphenol	34 µg/L
Pentachlorophenol	1 µg/L
PCBs	
PCBs	0.00056 µg/L (w/DL = 0.1 to 0.9)

Notes:
NE = No effluent limit established.
DL = Detection limit

Table 2.2
Summary of Effluent Analytical Results - Fourth Quarter 2002
Groundwater Treatment System
American Chemical Service NPL Site
Griffith, Indiana

Event Date	Month 65 10/24/2002	Month 66 11/26/2002	Month 67 12/17/2002	Effluent Limits	Lab Reporting
pH	7.55	7.65 /J	7.12 /J	6-9	none
TSS	ND	NS	NS	30	10
BOD	4	NS	NS	30	2
Arsenic	ND	NS	NS	50	3.4
Beryllium	ND	NS	NS	NE	0.2
Cadmium	ND	NS	NS	4.1	0.3
Manganese	15.9	NS	NS	NE	10
Mercury	ND	NS	NS	0.02 (w/DL = 0.64)	0.64
Selenium	ND	NS	NS	8.2	4.3
Thallium	ND	NS	NS	NE	5.7
Zinc	1.9 B/	NS	NS	411	1.2
Benzene	ND	0.05 J/J	ND	5	0.5
Acetone	1 JB/3 UJB	ND /UJ	3 B/UBJ	6,800	3
2-Butanone	ND	ND	ND	210	3
Chloromethane	ND	ND	0.4 J/	NE	0.5
1,4-Dichlorobenzene	ND	ND	ND	NE	0.5
1,1-Dichloroethane	ND	ND	ND	NE	0.5
cis-1,2-Dichloroethene	ND	ND	ND	70	0.5
Ethylbenzene	ND	ND	ND	34	0.5
Methylene chloride	1 B/UB	ND	0.5	5	0.6
Tetrachloroethene	ND	ND	ND /UJ	5	0.5
Trichloroethene	ND	ND	ND	5	0.5
Vinyl chloride	ND	ND	ND	2	0.5
4-Methyl-2-pentanone	ND	ND	ND	15	3
bis (2-Chloroethyl) ether	ND	NS	NS	9.6	9.6
bis(2-Ethylhexyl) - phthalate	ND	NS	NS	6	6
4 - Methylphenol	ND	NS	NS	34	10
Isophorone	ND	NS	NS	50	10
Pentachlorophenol	ND	NS	NS	1	1
PCB/Aroclor-1016	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1221	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.92*
PCB/Aroclor-1232	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1242	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1248	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1254	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5
PCB/Aroclor-1260	ND	NS	NS	0.00056 (w/DL = 0.1 to 0.9)	0.5

Notes:

Data has been validated in accordance with the Project QAPP (November 2001) and the U.S. EPA National Functional Guidelines for Organic Data Review

pH data is expressed in S.U.

TSS and BOD5 data is expressed in mg/L

Metals, VOC, SVOC and PCB data is expressed in ug/L

ND = Not detected

NS = This analyte was not sampled or analyzed for

NE = No effluent limit established.

NA = Sample not analyzed for this compound

* = Approved SW-846 method is incapable of achieving effluent limit.

Suffix Definitions:

_/ = Data qualifier added by laboratory

/_ = Data qualifier added by data validator

B = Compound is also detected in the blank

J = Result is detected below the reporting limit and is an estimated concentration

JB = Analyte is detected in the compliance sample below the reporting limit and is an estimated concentration and the compound is also detected in the method blank resulting in a potential high bias

U = Analyte is not detected at or above the indicated concentration

UB = Analyte is not detected at or above the indicated concentration due to blank contamination

UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value

Table 2.3
Summary of Catalytic Oxidizer Off-Gas Analytical Results for VOCs (Method TO-14) - Fourth Quarter 2002
American Chemical Service
Griffith, Indiana

		Sampled 10/17/02						Sampled 12/18/02					
		Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency		
Compounds	Units	Influent IN1	Influent IN2	Effluent EF1	Low	High	Average	Influent IN1	Influent IN2	Effluent EF1	Low	High	Average
Method TO-14													
Chloromethane	ppbv	ND /UJ	ND /UJ	90 /J	NC	NC	NC	ND	ND	81	NC	NC	NC
Vinyl Chloride	ppbv	2,200	2,000	360	82.00%	83.64%	82.82%	1,400	970	72	92.58%	94.86%	93.72%
Bromomethane	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	2.6 J/J	NC	NC	NC
Chloroethane	ppbv	2,600	2,500	250	90.00%	90.38%	90.19%	2,400	2,400	96	96.00%	96.00%	96.00%
1,1-Dichloroethene	ppbv	29 J/J	20 J/J	78	NC	NC	NC	24 J/J	20 J/J	14	NC	NC	NC
Methylene Chloride	ppbv	3,100	2,800	440	84.29%	85.81%	85.05%	1,100	980	160	83.67%	85.45%	84.56%
1,1-Dichloroethane	ppbv	1,000	990	70	92.93%	93.00%	92.96%	660	620	19	96.94%	97.12%	97.03%
cis-1,2-Dichloroethene	ppbv	7,300	6,900	690	90.00%	90.55%	90.27%	5,000	4,700	230	95.11%	95.40%	95.25%
Chloroform	ppbv	47 J/J	43 J/J	3.3 J/J	NC	NC	NC	37 J/J	26 J/J	1.2 J/J	NC	NC	NC
1,1,1-Trichloroethane	ppbv	710	680	34	95.00%	95.21%	95.11%	520	510	11	97.84%	97.88%	97.86%
Carbon Tetrachloride	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Benzene	ppbv	23,000	22,000	2,700	87.73%	88.26%	87.99%	17,000	17,000	960	94.35%	94.35%	94.35%
1,2-Dichloroethane	ppbv	ND	ND	ND	NC	NC	NC	110	110	6.6	94.00%	94.00%	94.00%
Trichloroethene	ppbv	440	410	60	85.37%	86.36%	85.86%	150	160	18	88.00%	88.75%	88.38%
1,2-Dichloropropane	ppbv	44 J/J	36 J/J	ND	NC	NC	NC	20 J/J	ND	ND	NC	NC	NC
cis-1,3-Dichloropropene	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Toluene	ppbv	8,600	8,400	650	92.26%	92.44%	92.35%	5,500	5,200	140	97.31%	97.45%	97.38%
trans-1,3-Dichloropropene	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
1,1,2-Trichloroethane	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Tetrachloroethene	ppbv	300	300	90	70.00%	70.00%	70.00%	240	250	90	62.50%	64.00%	63.25%
Chlorobenzene	ppbv	640	650	86	86.56%	86.77%	86.67%	370	360	46	87.22%	87.57%	87.39%
Ethyl Benzene	ppbv	1,600	1,600	91	94.31%	94.31%	94.31%	1,200	1,100	23	97.91%	98.08%	98.00%
m,p-Xylene	ppbv	7,000	7,200	340	95.14%	95.28%	95.21%	4,700	4,700	87	98.15%	98.15%	98.15%
o-Xylene	ppbv	1,800	1,900	89	95.06%	95.32%	95.19%	1,200	1,200	20	98.33%	98.33%	98.33%
Styrene	ppbv	ND	ND	23	NC	NC	NC	ND	ND	2.5 J/J	NC	NC	NC
1,1,2,2-Tetrachloroethane	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Acetone	ppbv	1,800 /J	1,800 /J	210 /J	NC	NC	NC	1,300	1,300	65	95.00%	95.00%	95.00%
Carbon Disulfide	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
trans-1,2-Dichloroethene	ppbv	78 J/J	83 J/J	74	NC	NC	NC	ND	ND	13	NC	NC	NC
2-Butanone (Methyl Ethyl Ketone)	ppbv	970	980	79	91.86%	99.91%	95.88%	600	600	19	96.83%	96.83%	96.83%
Bromodichloromethane	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Methyl-2-pentanone	ppbv	460 J/J	430 J/J	25 J/J	NC	NC	NC	310	320	7.2 J/J	NC	NC	NC
2-Hexanone	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Dibromochloromethane	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Bromoform	ppbv	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Total[1]	**ppbv**	**63,718**	**61,722**	**6,532**	**89.42%**	**89.75%**	**89.58%**	**43,841**	**42,526**	**2,184.1**	**94.86%**	**95.02%**	**94.94%**
Total[1]	**lb/hr**	**0.909**	**0.833**	**0.090**	**NC**	**NC**	**NC**	**0.621**	**0.603**	**0.031**	**NC**	**NC**	**NC**

Notes:
_/ - Laboratory data qualifier
/_ - Data validation qualifier
NC - Not calculated
ND - Non-detect
ppbv - parts per billion volume
Destruction efficiency is not calculated where influent and/or effluent values are estimated.
1. The total concentration was calculated using estimated detections (denoted with J or UJ qualifiers).
Therefore, this total should be considered an estimated total.

Qualifiers:
J - Result is estimated
U - Analyte is not detected at or above the indicated concentration

Table 2.4
Summary of Catalytic Oxidizer Off-Gas Analytical Results for SVOCs (Method TO-13) - Fourth Quarter 2002
American Chemical Service
Griffith, Indiana

		Sampled 10/17/02						Sampled 12/18/02					
		Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency		
Compounds	Units	Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)	Influent IN1	Influent IN2	Effluent EF1	Low (%)	High (%)	Average (%)
Method TO-13													
Phenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
bis(2-Chloroethyl) Ether	µg	0.99 J/J	0.98 J/J	ND	NC	NC	NC	0.73 J/J	0.68 J/J	ND	NC	NC	NC
2-Chlorophenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
1,3-Dichlorobenzene	µg	0.68 J/J	0.68 J/J	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
1,4-Dichlorobenzene	µg	8.8	8.8	1.4	84.09%	84.09%	84.09%	3.9	3.5	ND	100.00%	100.00%	100.00%
1,2-Dichlorobenzene	µg	19	18	2.9	83.89%	84.74%	84.31%	8.4	7.8	0.87 J/J	NC	NC	NC
2-Methylphenol (o-Cresol)	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
N-Nitroso-di-n-propylamine	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Methylphenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Hexachloroethane	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Nitrobenzene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Isophorone	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2-Nitrophenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4-Dimethylphenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
bis(2-Chloroethoxy) Methane	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4-Dichlorophenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
1,2,4-Trichlorobenzene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Naphthalene	µg	4.6	4.7	0.45 J/J	NC	NC	NC	1.0	0.95 J/J	ND	NC	NC	NC
4-Chloroaniline	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Hexachlorobutadiene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Chloro-3-methylphenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2-Methylnaphthalene	µg	1.3	1.3	ND	100.00%	100.00%	100.00%	0.47 J/J	0.43 J/J	ND	NC	NC	NC
Hexachlorocyclopentadiene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4,6-Trichlorophenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4,5-Trichlorophenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2-Chloronaphthalene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2-Nitroaniline	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Dimethylphthalate	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Acenaphthylene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,6-Dinitrotoluene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
3-Nitroaniline	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Acenaphthene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4-Dinitrophenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Nitrophenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
2,4-Dinitrotoluene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Dibenzofuran	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Diethylphthalate	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Fluorene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Chlorophenyl-phenyl Ether	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Nitroaniline	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4,6-Dinitro-2-methylphenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
N-Nitrosodiphenylamine	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
4-Bromophenyl-phenyl Ether	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Hexachlorobenzene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Pentachlorophenol	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC

Table 2.4
Summary of Catalytic Oxidizer Off-Gas Analytical Results for SVOCs (Method TO-13) - Fourth Quarter 2002
American Chemical Service
Griffith, Indiana

		Sampled 10/17/02						Sampled 12/18/02					
		Analytical Data			Destruction Efficiency			Analytical Data			Destruction Efficiency		
Compounds	**Units**	**Influent IN1**	**Influent IN2**	**Effluent EF1**	**Low (%)**	**High (%)**	**Average (%)**	**Influent IN1**	**Influent IN2**	**Effluent EF1**	**Low (%)**	**High (%)**	**Average (%)**
Method TO-13													
Phenanthrene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Anthracene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
di-n-Butylphthalate	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Fluoranthene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Pyrene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Butylbenzylphthalate	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
3,3'-Dichlorobenzidine	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Chrysene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Benzo(a)anthracene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
bis(2-Ethylhexyl)phthalate	µg	ND	ND	ND	NC	NC	NC	24	2.4 J/J	ND	NC	NC	NC
Di-n-Octylphthalate	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Benzo(b)fluoranthene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Benzo(k)fluoranthene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Benzo(a)pyrene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Indeno(1,2,3-c,d)pyrene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Dibenz(a,h)anthracene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Benzo(g,h,i)perylene	µg	ND	ND	ND	NC	NC	NC	ND	ND	ND	NC	NC	NC
Total[1]	µg	**35.4**	**34.5**	**4.8**	**86.22%**	**86.57%**	**86.39%**	**38.5**	**15.8**	**0.9**	**97.74%**	**100.00%**	**100.00%**

Notes:
_/ - Laboratory data qualifier
/_ - Data validation qualifier
µg - Microgram
NC - Not calculated
ND - Non-detect
Destruction efficiency is not calculated where influent and/or effluent values are estimated.
1. The total concentration was calculated using estimated detections (denoted with J or UJ qualifiers). Therefore, this total should be considered an estimated total.

Qualifiers:
U -Analyte is not dtected at or above the indicated concentration
J - Result is estimated
UJ - Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
JB - Analyte is detected in the method blank resulting in potential bias high. Reported concentration is estimated.

Table 4.1
Water Table Elevations Across the Barrier Wall and Near the PGCS - Fourth Quarter 2002
American Chemical Service NPL Site
Griffith, Indiana

Upper Aquifer Wells

Well Designation	Reference Points			12/5/02		Notes	Difference from Barrier Wall (ft) if applicable
	East	North	TOC	Depth	Elevation		
MW11	6377	7329	640.47	10.56	629.91		n/a
MW13	5050	7814	634.08	5.15	628.93		n/a
MW37	5395	7976	636.78	8.15	628.63		n/a
MW46	4526	7424	633.32	3.37	629.95		n/a
MW48	5669	7814	636.36	7.58	628.78		n/a
MW49	5551	7650	637.00	8.17	628.83		n/a

Staff Gauges & Piezometers

Well Designation	Reference Points			12/5/02		Notes	Difference from Barrier Wall (ft) if applicable
	East	North	TOC	Depth	Elevation		
P23	4689	7018	636.18	7.63	628.55		n/a
P25	5131	7510	635.01	7.10	627.91		n/a
P26	4764	7309	634.23	4.79	629.44		n/a
P27	4904	7020	639.70	11.79	627.91		n/a
P28	5883	7486	644.53	NM	NM	Dry; TD=15.0 (<629.53)	n/a
P32	5746	7026	642.32	12.52	629.80		n/a
P40	5931	7241	638.77	8.93	629.84		n/a
P41	5663	7377	637.23	7.32	629.91		n/a
P49	5145	6949	638.98	10.89	628.09		n/a
SG13	-	-	631.53	4.70	630.23	ICE; TOSG = 6.0' mark	n/a

PGCS Piezometer Sets

Well Designation	Reference Points			12/5/02		Notes	Difference from Barrier Wall (ft) if applicable
	East	North	TOC	Depth	Elevation		
P81	5577	7581	636.19	7.49	628.70		n/a
P82	5577	7572	635.77	7.15	628.62		n/a
P83	5577	7561.6	635.95	7.32	628.63		n/a
P84	5322	7603	634.35	6.30	628.05		n/a
P85	5326	7594	634.08	6.13	627.95		n/a
P86	5329	7585	634.41	6.46	627.95		n/a
P87	5121	7466	633.88	6.02	627.86		n/a
P88	5130	7460	633.90	6.56	627.34		n/a
P89	5137	7454	634.02	6.62	627.40		n/a
P90	4881	7152	632.59	5.95	626.64		n/a
P91	4889	7145	632.97	6.33	626.64		n/a
P92	4896	7138.1	633.63	6.62	627.01	Needs to be resurveyed (TOC is lower than P90 and P91)	n/a

Table 4.1
Water Table Elevations Across the Barrier Wall and Near the PGCS - Fourth Quarter 2002
American Chemical Service NPL Site
Griffith, Indiana

BWES Water Level and Piezometer Pairs

Well Designation	Reference Points			12/5/2002			Difference Across Barrier Wall (if applicable)
	East	North	TOC	Level	Elevation	Notes	
P93 - Outside BW	5136	7067	638.79	CNM	CNM	Does not exist - to be replaced	n/a
P94 - Inside BW	5146	7061	638.98	CNM	CNM	Does not exist - to be replaced	
P95 - Outside BW	5146	6532	638.58	10.59	627.99		> -7.48
P96 - Inside BW	5156	6537	638.39	Dry	Dry	TD=17.88 (Elevation <620.51)	
P105 - Outside BW	5885	6678	638.86	CNM	CNM	Could not find - Ground frozen	n/a
P106 - Inside BW	5871	6685	638.10	CNM	CNM	Could not find - Ground frozen	
P107 - Outside BW	5766	7339	637.42	8.11	629.31		0.74
P108 - Inside BW	5757	7324	638.13	8.08	630.05		
P109 - Outside BW	5740	6387	644.30	13.73	630.57		-4.58
P110 - Inside BW	5705	6382	647.68	21.69	625.99		
P111 - Outside BW	5551	5950	650.03	19.86	630.17		-6.03
P112 - Inside BW	5525	5960	653.36	29.22	624.14		
P113 - Inside BW[2]	5309	5693	657.53	31.30	626.23		-3.50
ORCPZ102 - Outside BW	5331	5612	652.47	22.74	629.73		
P114 - Inside BW	5035	5729	653.69	26.91	626.78		-3.13
P115 - Outside BW	4970	5708	652.50	22.59	629.91		
P116 - Inside BW	5031	6087	646.26	19.91	626.35		-2.78
P117 - Outside BW	5014	6087	643.93	14.80	629.13		
P118 - Inside BW	5402	6539	645.52	20.39	625.13		n/a

Notes:

All depth measurements and elevations are in units of feet.

Elevation is in feet above mean sea level.

TOIC = top of inner casing

TOC = top of casing

TOSG = top of staff gauge

CNM = could not measure (reason given under "Notes" column)

n/a = not applicable

1 = A positive value indicates that the water level is higher inside the barrier wall. A negative value indicates that the water level is lower inside the barrier wall.

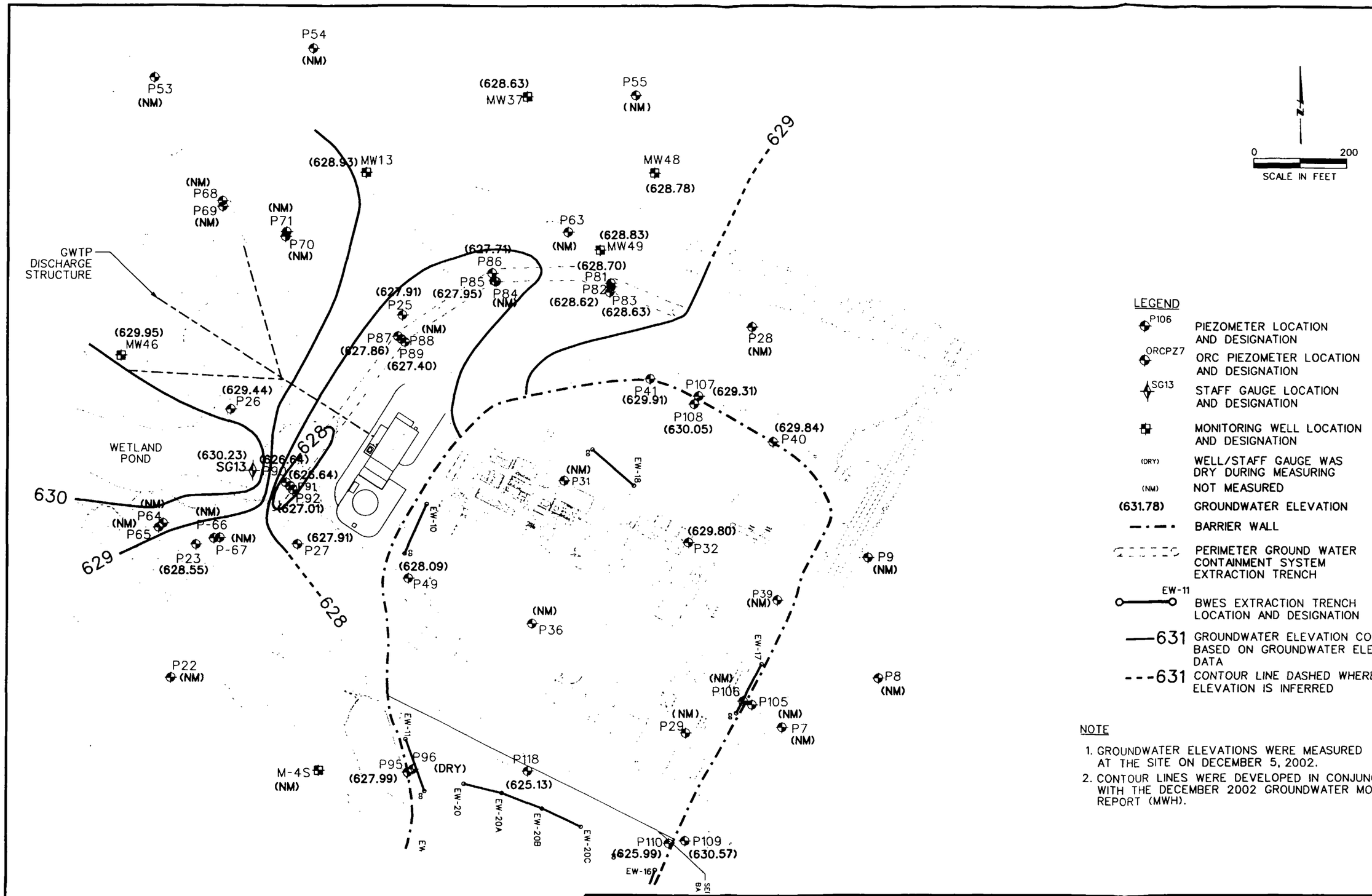
2 = P113 was measured on December 6, 2002

Table 4.2
Water Levels Inside Barrier Wall - Third Quarter 2002
American Chemical Service NPL Site
Griffith, Indiana

Date	On-Site Area							
	Target Level	P-29	P-31	P-32	P-36	P-49	P-106	P-108
4-Oct-02	629.0	630.5	631.2	631.3	630.2	628.3	629.0	631.3
11-Oct-02	629.0	630.4	630.9	631.0	629.9	627.9	628.4	630.9
18-Oct-02	629.0	630.3	631.0	630.8	629.7	627.9	628.4	630.8
25-Oct-02	629.0	630.4	630.9	630.5	629.6	627.9	628.2	630.6
1-Nov-02	629.0	630.4	630.0	630.3	629.6	627.8	628.3	630.5
7-Nov-02	629.0	630.4	630.9	630.1	629.6	627.7	628.4	630.3
15-Nov-02	629.0	630.4	630.9	629.8	629.2	628.0	628.1	630.2
22-Nov-02	629.0	630.4	630.9	629.8	629.0	627.9	627.8	630.1
29-Nov-02	629.0	630.4	630.9	629.8	629.0	628.0	627.7	630.1
6-Dec-02	629.0	630.4	630.9	629.8	629.0	628.1	627.7	630.0
13-Dec-02	629.0	630.4	630.9	629.8	629.0	628.0	627.9	630.0
21-Dec-02	629.0	630.4	630.9	629.8	628.9	628.0	628.1	629.9
28-Dec-02	629.0	630.4	630.9	629.8	628.8	627.9	627.9	630.0

Date	Off-Site Area										
	Target Level	P-96	P-110	P-112	P-113	P-114	P-116	P-118	AS-7	AS-8	AS-9
4-Oct-02	626.0	620.5	626.6	624.3	627.0	627.8	627.5	625.8	626.5	626.5	626.3
11-Oct-02	626.0	620.6	626.5	624.2	626.9	627.9	627.4	625.5	626.5	626.4	626.1
18-Oct-02	626.0	620.6	626.5	624.2	626.9	627.8	627.4	625.5	626.3	626.2	626.1
25-Oct-02	626.0	620.5	626.5	624.1	626.9	627.8	627.4	625.5	626.4	626.3	626.1
1-Nov-02	626.0	620.6	626.4	624.0	626.6	627.4	627.0	625.5	626.4	626.3	626.0
7-Nov-02	626.0	620.7	626.4	624.0	626.3	627.0	626.7	625.5	626.5	626.3	626.0
15-Nov-02	626.0	620.6	626.2	624.0	626.3	626.8	626.4	625.3	626.5	626.6	625.9
22-Nov-02	626.0	620.6	626.1	624.0	626.2	626.9	626.3	625.2	626.7	626.7	625.9
29-Nov-02	626.0	620.6	626.1	624.0	626.2	626.9	626.3	625.2	626.8	626.4	626.1
6-Dec-02	626.0	620.6	626.1	624.1	626.2	626.9	626.3	625.2	626.5	626.7	626.3
13-Dec-02	626.0	620.6	626.1	624.1	626.4	626.5	627.1	625.2	626.3	626.2	625.9
21-Dec-02	626.0	620.6	626.1	624.8	626.7	627.2	627.9	625.2	626.4	626.6	626.3
28-Dec-02	626.0	620.6	626.0	625.1	626.3	626.7	626.8	625.0	626.6	626.9	626.4

Notes:
All water level elevations are in feet AMSL



LEGEND

- P106 — PIEZOMETER LOCATION AND DESIGNATION
- ORCPZ7 — ORC PIEZOMETER LOCATION AND DESIGNATION
- SG13 — STAFF GAUGE LOCATION AND DESIGNATION
- MONITORING WELL LOCATION AND DESIGNATION
- (DRY) — WELL/STAFF GAUGE WAS DRY DURING MEASURING
- (NM) — NOT MEASURED
- (631.78) — GROUNDWATER ELEVATION
- BARRIER WALL
- PERIMETER GROUND WATER CONTAINMENT SYSTEM EXTRACTION TRENCH
- EW-11 — BWES EXTRACTION TRENCH LOCATION AND DESIGNATION
- 631 — GROUNDWATER ELEVATION CONTOUR BASED ON GROUNDWATER ELEVATION DATA
- ---631 — CONTOUR LINE DASHED WHERE ELEVATION IS INFERRED

NOTE

1. GROUNDWATER ELEVATIONS WERE MEASURED AT THE SITE ON DECEMBER 5, 2002.
2. CONTOUR LINES WERE DEVELOPED IN CONJUNCTION WITH THE DECEMBER 2002 GROUNDWATER MONITORING REPORT (MWH).

SCALE			FIGURE
1" = 200'	MWH	AMERICAN CHEMICAL SERVICE, INC. GRIFFITH, INDIANA	WATER TABLE ELEVATIONS NEAR THE PGCS DECEMBER 2002	4.1

Plot Date: 17-APR-2003 08:35

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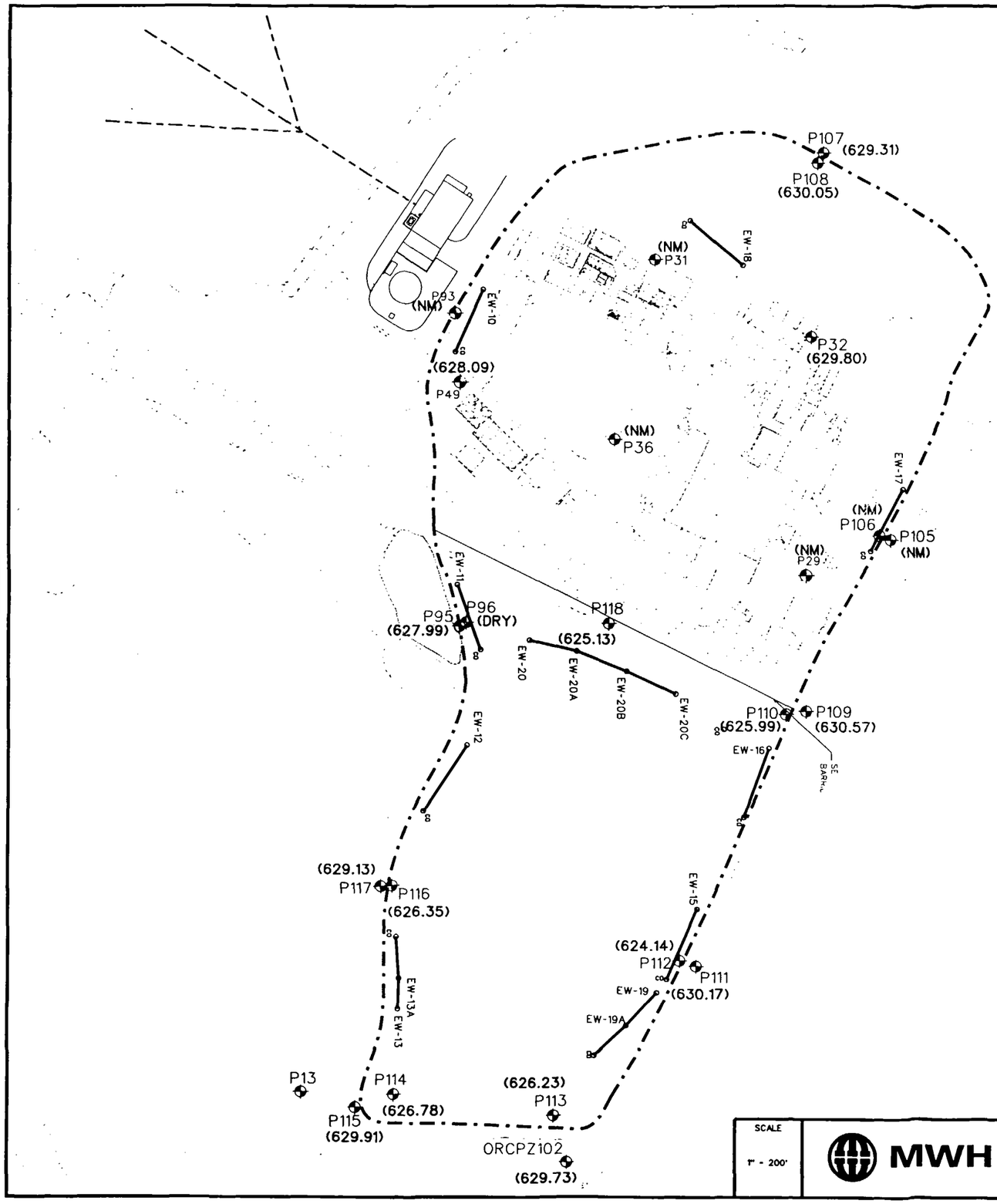


LEGEND

P106	PIEZOMETER LOCATION AND DESIGNATION
ORCPZ7	ORC PIEZOMETER LOCATION AND DESIGNATION
	MONITORING WELL LOCATION AND DESIGNATION
	STAFF GAUGE LOCATION AND DESIGNATION
(DRY)	WELL/STAFF GAUGE WAS DRY DURING MEASURING
(NM)	NOT MEASURED
(631.78)	GROUNDWATER ELEVATION
	BARRIER WALL
EW-11	BWES EXTRACTION TRENCH LOCATION AND DESIGNATION
	PERIMETER GROUND WATER CONTAINMENT SYSTEM EXTRACTION TRENCH

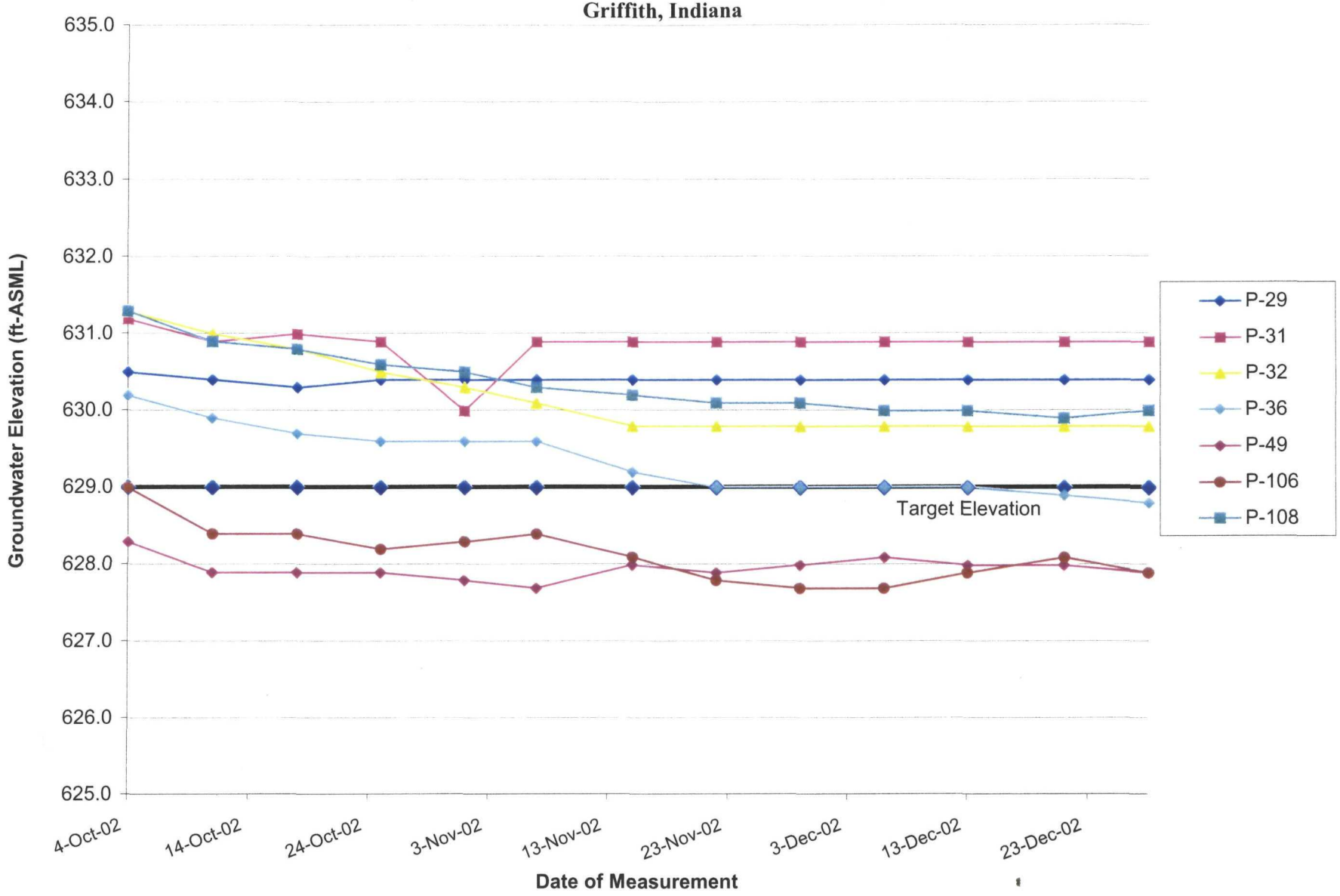
NOTE

1. GROUNDWATER ELEVATIONS WERE MEASURED AT THE SITE ON DECEMBER 5, 2002

SCALE			FIGURE
1" = 200'	MWH	AMERICAN CHEMICAL SERVICE, INC. GRIFFITH, INDIANA	WATER TABLE ELEVATIONS ACROSS THE BARRIER WALL DECEMBER 2002	4.2

JOB No. MW Job No. FILE: J:\209\0803 ACS\0301 GWTP\Drawings\Water Table 2 DEC 02.dgn Plot Date: 17-APR-2003 08:08

Figure 4.3
Water Level Trends Inside Barrier Wall (On-Site Area)
ACS NPL Site
Griffith, Indiana



JDP
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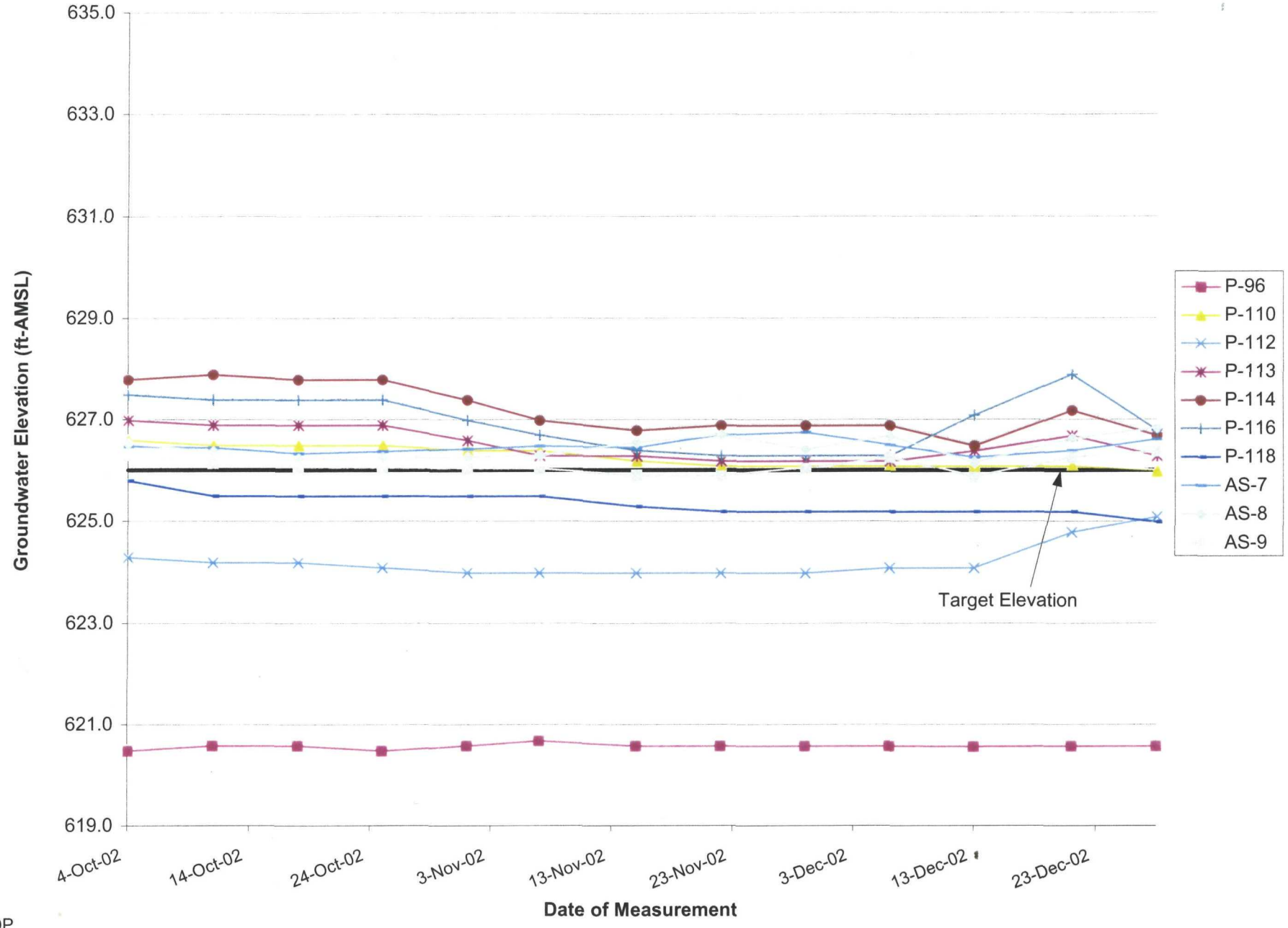
Figure 4.4
Water Level Trends Inside Barrier Wall (Off-Site Area)
ACS NPL Site
Griffith, Indiana



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APPENDIX A

EFFLUENT ANALYTICAL DATA

October 24, 2002 Compliance Sample
Laboratory Results

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

La Name: CompuChem Contract:

La Code: LIBRTY Case No.: NRAS No.:

SDG No.: RN1024

Matrix (soil/water): WATER Lab Sample ID: RN1024-1

Date Received: 10/25/02 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): pH units

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
pH	7.55				10/25/02
TSS	1.00	U			10/29/02

10/31/02

Comments:

2

CHEMICAL & ENVIRONMENTAL TECHNOLOGY, INC.

ENVIRONMENTAL ANALYTICAL SERVICES

E408

FINAL REPORT OF ANALYSES

COMPUCHEM
Attn: DIANE BYRD
501 MADISON AVENUE
CARY, NC 27513-

REPORT DATE: 11/08/02

SAMPLE NUMBER- 201774 SAMPLE ID- EFFLUENT SAMPLE MATRIX- GW
DATE SAMPLED- 10/24/02 TIME SAMPLED- 1400
DATE RECEIVED- 10/25/02 SAMPLER- CLIENT RECEIVED BY- MNH
TIME RECEIVED- 1245 DELIVERED BY- C SHUTT

Page 1 of 1 PROJECT NAME : EFFLUENT

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	PQL
BIOCHEMICAL OXYGEN DEMAND	EPA 405.1	10/25/02	RCB	4	mg/L	2

PQL = Practical Quantitation Limit
Results followed by the letter J are estimated concentrations.

NC DENR CERTIFICATIONS: DWQ - 96; PUBLIC WATER SUPPLY - 37724

LABORATORY DIRECTOR A.L.K

11/1/02

SW846 METALS
-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: RN1024

Matrix (soil/water): WATER Lab Sample ID: RN1024-1

Level (low/med): LOW Date Received: 10/25/02

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	56.7	U		P
7440-36-0	Antimony	4.1	B	UB	P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	102			P
7440-41-7	Beryllium	0.20	U		P
7440-43-9	Cadmium	0.30	U		P
7440-70-2	Calcium	66300			P
7440-47-3	Chromium	1.5	B		P
7440-48-4	Cobalt	1.5	B		P
7440-50-8	Copper	3.3	B	UB	P
7439-89-6	Iron	12.5	U		P
7439-92-1	Lead	1.2	U		P
7439-95-4	Magnesium	28300			P
7439-96-5	Manganese	15.9			P
7439-97-6	Mercury	0.64	U		CV
7440-02-0	Nickel	36.7			P
7440-09-7	Potassium	17100			P
7782-49-2	Selenium	3.0	U		P
7440-22-4	Silver	0.80	U		P
7440-23-5	Sodium	92800			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	1.3	B		P
7440-66-6	Zinc	1.9	B		P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

7

9400B

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: RN1024

Matrix: (soil/water) WATER Lab Sample ID: RN1024-1

Sample wt/vol: 25 (g/ml) ML Lab File ID: RN1024-1B62

Level: (low/med) LOW Date Received: 10/25/02

% Moisture: not dec. _____ Date Analyzed: 10/29/02

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(u

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
74-87-3	Chloromethane	0.5	U	
75-01-4	Vinyl Chloride	0.5	U	
74-83-9	Bromomethane	0.1	JB	0.5UB
75-00-3	Chloroethane	0.5	U	
75-35-4	1,1-Dichloroethene	0.5	U	
75-15-0	Carbon disulfide	0.5	U	
67-64-1	Acetone	1	JB	3UJB
75-09-2	Methylene Chloride	1	B	UB
156-60-5	trans-1,2-Dichloroethene	0.5	U	
75-34-3	1,1-Dichloroethane	0.5	U	
156-59-2	cis-1,2-Dichloroethene	0.5	U	
78-93-3	2-butanone	3	U	
67-66-3	Chloroform	0.1	J	
71-55-6	1,1,1-Trichloroethane	0.5	U	
56-23-5	Carbon Tetrachloride	0.5	U	
71-43-2	Benzene	0.5	U	
107-06-2	1,2-Dichloroethane	0.5	U	
79-01-6	Trichloroethene	0.5	U	
78-87-5	1,2-Dichloropropane	0.5	U	
75-27-4	Bromodichloromethane	0.5	U	
10061-01-5	cis-1,3-Dichloropropene	0.5	U	
108-10-1	4-Methyl-2-pentanone	3	U	
108-88-3	Toluene	0.2	JB	0.5UB
10061-02-6	trans-1,3-Dichloropropene	0.5	U	
79-00-5	1,1,2-Trichloroethane	0.5	U	
127-18-4	Tetrachloroethene	0.5	U	
591-78-6	2-hexanone	3	U	
124-48-1	Dibromochloromethane	0.5	U	
108-90-7	Chlorobenzene	0.5	U	
100-41-4	Ethylbenzene	0.5	U	
108-38-3	m,p-Xylene	1	U	
95-47-6	o-Xylene	0.5	U	
100-42-5	Styrene	0.5	U	

12/2/02

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: RN1024

Matrix: (soil/water) WATER Lab Sample ID: RN1024-1

Sample wt/vol: 25 (g/ml) ML Lab File ID: RN1024-1B62

Level: (low/med) LOW Date Received: 10/25/02

% Moisture: not dec. _____ Date Analyzed: 10/29/02

GC Column: RTX-VMS ID: 0.18 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(u

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U
541-73-1	1,3-Dichlorobenzene	0.5	U
106-46-7	1,4-Dichlorobenzene	0.5	U
95-50-1	1,2-Dichlorobenzene	0.5	U
120-82-1	1,2,4-Trichlorobenzene	0.5	U
540-59-0	1,2-Dichloroethene (total)	0.5	U
1330-20-7	Xylene (total)	0.5	U

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: RN1024

Matrix: (soil/water) WATER Lab Sample ID: RN1024-1

Sample wt/vol: 500 (g/mL) ML Lab File ID: RN1024-1A64

Level: (low/med) LOW Date Received: 10/25/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted:10/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 10/29/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	Bis(2-chloroethyl)ether	9.6	U
106-44-5	4-Methylphenol	10	U
78-59-1	Isophorone	10	U
117-81-7	bis(2-ethylhexyl)Phthalate	6	U

12/31/02

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8270C

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: RN1024

Matrix: (soil/water) WATER Lab Sample ID: RN1024-1

Sample wt/vol: 500 (g/mL) ML Lab File ID: RN1024-1A60

Level: (low/med) LOW Date Received: 10/25/02

% Moisture: _____ decanted: (Y/N)___ Date Extracted:10/25/02

Concentrated Extract Volume: 500(uL) Date Analyzed: 11/03/02

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
87-86-5	Pentachlorophenol	1	U

12/7/02

1D

GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Contract: 8082-PCB

Lab Code: COMPU Case No.: SAS No.: SDG No.: RN1024

Matrix: (soil/water) WATER Lab Sample ID: RN1024-1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N)___ Date Received: 10/25/02

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:10/28/01

Concentrated Extract Volume: 5000(uL) Date Analyzed: 11/02/02

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	0.50	U
11096-82-5	Aroclor-1260	0.50	U

11/02

November 26, 2002 Compliance Sample
Laboratory Results

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: CompuChem Contract:

Lab Code: LIBRTY Case No.: NRAS No.:

SDG No.: RP1024

Matrix (soil/water): WATER Lab Sample ID: RP1024-1

Date Received: 11/29/02 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): pH units

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
pH	7.65				12/3/02

J

1/9/03

Comments:

2

9600A -

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: RP1024

Matrix: (soil/water) WATER Lab Sample ID: RP1024-1

Sample wt/vol: 25 (g/ml) ML Lab File ID: RP1024-1A71

Level: (low/med) LOW Date Received: 11/29/02

% Moisture: not dec. _____ Date Analyzed: 12/04/02

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(u

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
74-87-3	Chloromethane	0.5	U	
75-01-4	Vinyl Chloride	0.5	U	
74-83-9	Bromomethane	0.5	U	UJ
75-00-3	Chloroethane	0.1	J	
75-35-4	1,1-Dichloroethene	0.5	U	
75-15-0	Carbon disulfide	0.5	U	
67-64-1	Acetone	3	U	UJ
75-09-2	Methylene Chloride	0.5	J	
156-60-5	trans-1,2-Dichloroethene	0.5	U	
75-34-3	1,1-Dichloroethane	0.5	U	
156-59-2	cis-1,2-Dichloroethene	0.5	U	
78-93-3	2-butanone	3	U	
67-66-3	Chloroform	0.5	U	
71-55-6	1,1,1-Trichloroethane	0.5	U	
56-23-5	Carbon Tetrachloride	0.5	U	UJ
71-43-2	Benzene	0.05	J	J
107-06-2	1,2-Dichloroethane	0.5	U	
79-01-6	Trichloroethene	0.5	U	
78-87-5	1,2-Dichloropropane	0.5	U	
75-27-4	Bromodichloromethane	0.5	U	
10061-01-5	cis-1,3-Dichloropropene	0.5	U	
108-10-1	4-Methyl-2-pentanone	3	U	
108-88-3	Toluene	0.9	B	UB
10061-02-6	trans-1,3-Dichloropropene	0.5	U	
79-00-5	1,1,2-Trichloroethane	0.5	U	
127-18-4	Tetrachloroethene	0.5	U	
591-78-6	2-hexanone	3	U	
124-48-1	Dibromochloromethane	0.5	U	
108-90-7	Chlorobenzene	0.07	JB	UB
100-41-4	Ethylbenzene	0.5	U	
108-38-3	m,p-Xylene	0.08	JB	UB
95-47-6	o-Xylene	0.5	U	
100-42-5	Styrene	0.5	U	

1/9/03

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: RP1024

Matrix: (soil/water) WATER Lab Sample ID: RP1024-1

Sample wt/vol: 25 (g/ml) ML Lab File ID: RP1024-1A71

Level: (low/med) LOW Date Received: 11/29/02

% Moisture: not dec. _____ Date Analyzed: 12/04/02

GC Column: SPB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(u

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	0.5	U
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U
541-73-1	1,3-Dichlorobenzene	0.5	U
106-46-7	1,4-Dichlorobenzene	0.5	U
95-50-1	1,2-Dichlorobenzene	0.5	U
120-82-1	1,2,4-Trichlorobenzene	0.5	U
540-59-0	1,2-Dichloroethene (total)	0.5	U
1330-20-7	Xylene (total)	0.08	JB UB

12/9/02

December 17, 2002 Compliance Sample
Laboratory Results

SW-846

1-CC

CLASSICAL CHEMISTRY ANALYSES DATA SHEET

EPA SAMPLE NO.

EFFLUENT

I o Name: CompuChem Contract: _____

Lab Code: LIBRTY Case No.: _____ NRAS No.: _____

S G No.: SS1024

Matrix (soil/water): WATER Lab Sample ID: SS1024-1

I te Received: 12/18/02 % Solids: 0.00

Concentration Units (mg/L or mg/kg dry weight): pH units

PARAMETER	CONCENTRATION	C	Q	M	DATE ANALYZED
pH	7.12				12/20/02

J

A-12303

Comments: _____

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FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: SS1024

Matrix: (soil/water) WATER Lab Sample ID: SS1024-1

Sample wt/vol: 25 (g/ml) ML Lab File ID: SS1024-1RB73

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/30/02

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	J
75-01-4	Vinyl Chloride	0.5	U
74-83-9	Bromomethane	0.5	U UJ
75-00-3	Chloroethane	0.5	U UJ
75-35-4	1,1-Dichloroethene	0.5	U
75-15-0	Carbon disulfide	0.5	U UJ
67-64-1	Acetone	3	B UBJ
75-09-2	Methylene Chloride	0.5	
156-60-5	trans-1,2-Dichloroethene	0.5	U
75-34-3	1,1-Dichloroethane	0.5	U
156-59-2	cis-1,2-Dichloroethene	0.5	U
78-93-3	2-butanone	3	U
67-66-3	Chloroform	0.5	
71-55-6	1,1,1-Trichloroethane	0.5	U
56-23-5	Carbon Tetrachloride	0.5	U
71-43-2	Benzene	0.5	U
107-06-2	1,2-Dichloroethane	0.5	U
79-01-6	Trichloroethene	0.5	U
78-87-5	1,2-Dichloropropane	0.5	U
75-27-4	Bromodichloromethane	0.5	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-10-1	4-Methyl-2-pentanone	3	U
108-88-3	Toluene	0.3	JB 0.5UB
10061-02-6	trans-1,3-Dichloropropene	0.5	U
79-00-5	1,1,2-Trichloroethane	0.5	U
127-18-4	Tetrachloroethene	0.5	U UJ
591-78-6	2-hexanone	3	U UJ
124-48-1	Dibromochloromethane	0.5	U
108-90-7	Chlorobenzene	0.1	J
100-41-4	Ethylbenzene	0.5	U
108-38-3	m,p-Xylene	1	U
95-47-6	o-Xylene	0.5	U
100-42-5	Styrene	0.5	U

FORM I VOA

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Method: 8260B

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: SS1024

Matrix: (soil/water) WATER Lab Sample ID: SS1024-1

Sample wt/vol: 25 (g/ml) ML Lab File ID: SS1024-1RB73

Level: (low/med) LOW Date Received: 12/18/02

% Moisture: not dec. _____ Date Analyzed: 12/30/02

GC Column: ZB-624 ID: 0.32 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(u

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	0.5	U UJ
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U
541-73-1	1,3-Dichlorobenzene	0.5	U
106-46-7	1,4-Dichlorobenzene	0.5	U
95-50-1	1,2-Dichlorobenzene	0.5	U
120-82-1	1,2,4-Trichlorobenzene	0.5	U UJ
540-59-0	1,2-Dichloroethene (total)	0.5	U
1330-20-7	Xylene (total)	0.5	U

1/23

APPENDIX B

CATALYTIC OXIDIZER OFF-GAS ANALYTICAL DATA

October 17, 2002 Off-Gas Sample Laboratory Results

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 EF1 OCTA

ID#: 0210418A-01A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name: [redacted]102309 Date of Collection: 10/17/02

Dil. Factor: [redacted]4.6 Date of Analysis: 10/23/02

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	14	28	90 /J	190
Vinyl Chloride	14	35	360	940
Bromomethane	14	54	Not Detected	Not Detected
Chloroethane	14	36	250	670
1,1-Dichloroethene	14	55	78	310
Methylene Chloride	14	48	440	1500
1,1-Dichloroethane	14	56	70	290
cis-1,2-Dichloroethene	14	55	690	2800
Chloroform	14	67	3.3 J /J	16 J
1,1,1-Trichloroethane	14	75	34	190
Carbon Tetrachloride	14	87	Not Detected	Not Detected
Benzene	14	44	2700	8800
1,2-Dichloroethane	14	56	Not Detected	Not Detected
Trichloroethene	14	74	60	320
1,2-Dichloropropane	14	64	Not Detected	Not Detected
cis-1,3-Dichloropropene	14	63	Not Detected	Not Detected
Toluene	14	52	650	2500
trans-1,3-Dichloropropene	14	63	Not Detected	Not Detected
1,1,2-Trichloroethane	14	75	Not Detected	Not Detected
Tetrachloroethene	14	94	90	620
Chlorobenzene	14	64	86	400
Ethyl Benzene	14	60	91	400
m,p-Xylene	14	60	340	1500
o-Xylene	14	60	89	390
Styrene	14	59	23	100
1,1,2,2-Tetrachloroethane	14	95	Not Detected	Not Detected
Acetone	54	130	210 /J	510
Carbon Disulfide	54	170	Not Detected	Not Detected
trans-1,2-Dichloroethene	54	220	74	300
2-Butanone (Methyl Ethyl Ketone)	54	160	79	240
Bromodichloromethane	54	370	Not Detected	Not Detected
4-Methyl-2-pentanone	54	230	25 J /J	100 J
2-Hexanone	54	230	Not Detected	Not Detected
Dibromochloromethane	54	470	Not Detected	Not Detected
Bromoform	54	570	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 EF1 OCTA

ID#: 0210418A-01A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	k102309	Date of Collection:	10/17/02
Dil Factor:	2.72	Date of Analysis:	10/23/02

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	89	70-130

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 IN1 OCTA

ID#: 0210418A-02A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

[redacted]

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	140	290	Not Detected /U	Not Detected
Vinyl Chloride	140	360	2200	5700
Bromomethane	140	550	Not Detected	Not Detected
Chloroethane	140	370	2600	6900
1,1-Dichloroethene	140	560	29 J /J	120 J
Methylene Chloride	140	490	3100	11000
1,1-Dichloroethane	140	570	1000	4300
cis-1,2-Dichloroethene	140	560	7300	29000
Chloroform	140	690	47 J /J	230 J
1,1,1-Trichloroethane	140	770	710	4000
Carbon Tetrachloride	140	890	Not Detected	Not Detected
Benzene	140	450	23000	75000
1,2-Dichloroethane	140	570	Not Detected	Not Detected
Trichloroethene	140	760	440	2400
1,2-Dichloropropane	140	650	44 J /J	210 J
cis-1,3-Dichloropropene	140	640	Not Detected	Not Detected
Toluene	140	530	8600	33000
trans-1,3-Dichloropropene	140	640	Not Detected	Not Detected
1,1,2-Trichloroethane	140	770	Not Detected	Not Detected
Tetrachloroethene	140	960	300	2100
Chlorobenzene	140	650	640	3000
Ethyl Benzene	140	610	1600	7200
m,p-Xylene	140	610	7000	31000
o-Xylene	140	610	1800	7900
Styrene	140	600	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	140	970	Not Detected	Not Detected
Acetone	560	1300	1800 /J	4400
Carbon Disulfide	560	1800	Not Detected	Not Detected
trans-1,2-Dichloroethene	560	2200	78 J /J	310 J
2-Butanone (Methyl Ethyl Ketone)	560	1700	970	2900
Bromodichloromethane	560	3800	Not Detected	Not Detected
4-Methyl-2-pentanone	560	2300	460 J /J	1900 J
2-Hexanone	560	2300	Not Detected	Not Detected
Dibromochloromethane	560	4800	Not Detected	Not Detected
Bromoform	560	5800	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 IN1 OCTA

ID#: 0210418A-02A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name: [redacted]k102310 Date of Collection: 10/17/02

Dil. Factor: [redacted]78 Date of Analysis: 10/23/02

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	88	70-130

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 IN2 OCTA

ID#: 0210418A-03A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name: [illegible] 102311 Date of Collection: 10/17/02
Dil. Factor: 268 Date of Analysis: 10/23/02

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	130	280	Not Detected /W	Not Detected
Vinyl Chloride	130	350	2000	5200
Bromomethane	130	530	Not Detected	Not Detected
Chloroethane	130	360	2500	6800
1,1-Dichloroethene	130	540	20 J /J	80 J
Methylene Chloride	130	470	2800	10000
1,1-Dichloroethane	130	550	990	4100
cis-1,2-Dichloroethene	130	540	6900	28000
Chloroform	130	660	43 J /J	210 J
1,1,1-Trichloroethane	130	740	680	3800
Carbon Tetrachloride	130	860	Not Detected	Not Detected
Benzene	130	440	22000	73000
1,2-Dichloroethane	130	550	Not Detected	Not Detected
Trichloroethene	130	730	410	2200
1,2-Dichloropropane	130	630	36 J /J	170 J
cis-1,3-Dichloropropene	130	620	Not Detected	Not Detected
Toluene	130	510	8400	32000
trans-1,3-Dichloropropene	130	620	Not Detected	Not Detected
1,1,2-Trichloroethane	130	740	Not Detected	Not Detected
Tetrachloroethene	130	920	300	2000
Chlorobenzene	130	630	650	3000
Ethyl Benzene	130	590	1600	7100
m,p-Xylene	130	590	7200	32000
o-Xylene	130	590	1900	8200
Styrene	130	580	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	130	940	Not Detected	Not Detected
Acetone	540	1300	1800 /J	4200
Carbon Disulfide	540	1700	Not Detected	Not Detected
trans-1,2-Dichloroethene	540	2200	83 J /J	330 J
2-Butanone (Methyl Ethyl Ketone)	540	1600	980	2900
Bromodichloromethane	540	3600	Not Detected	Not Detected
4-Methyl-2-pentanone	540	2200	430 J /J	1800 J
2-Hexanone	540	2200	Not Detected	Not Detected
Dibromochloromethane	540	4600	Not Detected	Not Detected
Bromoform	540	5600	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 IN2 OCTA

ID#: 0210418A-03A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name: [redacted] Date of Collection: 10/17/02

Dil. Factor: [redacted] Date of Analysis: 10/23/02

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	87	70-130

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 EF1 OCTA

ID#: 0210418B-01A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y102305	Date of Collection:	10/17/02
Dil. Factor:	1.1100	Date of Analysis:	10/23/02
		Date of Extraction:	10/21/02

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected
1,4-Dichlorobenzene	1.0	1.4
1,2-Dichlorobenzene	1.0	2.9
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	Not Detected
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	0.45 J
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	Not Detected
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 EF1 OCTA

ID#: 0210418B-01A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name: y102305 Date of Collection: 10/17/02

Dil. Factor: 1.00 Date of Analysis: 10/23/02

Date of Extraction: 10/21/02

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	86	50-150
Phenol-d5	91	50-150
Nitrobenzene-d5	88	50-150
2-Fluorobiphenyl	73	60-120
2,4,6-Tribromophenol	81	50-150
Terphenyl-d14	77	60-120

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 IN1 OCTA

ID#: 0210418B-02A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name: y102307 Date of Collection: 10/17/02
Dil. Factor: Date of Analysis: 10/23/02
Date of Extraction: 10/21/02

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	0.99 J /J
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	0.68 J /J
1,4-Dichlorobenzene	1.0	8.8
1,2-Dichlorobenzene	1.0	19
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	Not Detected
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	4.6
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnapnthalene	1.0	1.3
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 IN1 OCTA

ID#: 0210418B-02A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name: [redacted] Date of Collection: 10/17/02

Dil. Factor: 1.00 Date of Analysis: 10/23/02

Date of Extraction: 10/2[redacted]/02

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.
Q = Exceeds Quality Control limits.
Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	45 Q	50-150
Phenol-d5	80	50-150
Nitrobenzene-d5	84	50-150
2-Fluorobiphenyl	72	60-120
2,4,6-Tribromophenol	61	50-150
Terphenyl-d14	76	60-120

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 IN2 OCTA

ID#: 0210418B-03A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name: y102308 Date of Collection: 10/17/02

Dil. Factor: Date of Analysis: 10/23/02

Date of Extraction: 10/21/02

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	0.98 J /J
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	0.68 J /J
1,4-Dichlorobenzene	1.0	8.8
1,2-Dichlorobenzene	1.0	18
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	Not Detected
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	4.7
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	1.3
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

AIR TOXICS LTD.

SAMPLE NAME: ACS ME106 IN2 OCTA

ID#: 0210418B-03A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y102308	Date of Collection:	10/17/02
Dil. Factor:	1.00	Date of Analysis:	10/23/02
		Date of Extraction:	[illegible]

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.
Q = Exceeds Quality Control limits.
Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	49 Q	50-150
Phenol-d5	85	50-150
Nitrobenzene-d5	90	50-150
2-Fluorobiphenyl	75	60-120
2,4,6-Tribromophenol	65	50-150
Terphenyl-d14	77	60-120

December 18, 2002 Off-Gas Sample Laboratory Results

AIR TOXICS LTD.

SAMPLE NAME: ACSME106EF1DECA

ID#: 0212471A-01A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	t122814	Date of Collection:	12/18/02
Dil. Factor:	6.20	Date of Analysis:	12/28/02

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	3.1	6.5	81	170
Vinyl Chloride	3.1	8.0	72	190
Bromomethane	3.1	12	2.6 J /J	10 J
Chloroethane	3.1	8.3	96	260
1,1-Dichloroethene	3.1	12	14	56
Methylene Chloride	3.1	11	160	580
1,1-Dichloroethane	3.1	13	19	78
cis-1,2-Dichloroethene	3.1	12	230	940
Chloroform	3.1	15	1.2 J /J	6.1 J
1,1,1-Trichloroethane	3.1	17	11	62
Carbon Tetrachloride	3.1	20	Not Detected	Not Detected
Benzene	3.1	10	960	3100
1,2-Dichloroethane	3.1	13	6.6	27
Trichloroethene	3.1	17	18	100
1,2-Dichloropropane	3.1	14	Not Detected	Not Detected
cis-1,3-Dichloropropene	3.1	14	Not Detected	Not Detected
Toluene	3.1	12	140	520
trans-1,3-Dichloropropene	3.1	14	Not Detected	Not Detected
1,1,2-Trichloroethane	3.1	17	Not Detected	Not Detected
Tetrachloroethene	3.1	21	90	620
Chlorobenzene	3.1	14	46	220
Ethyl Benzene	3.1	14	23	100
m,p-Xylene	3.1	14	87	380
o-Xylene	3.1	14	20	89
Styrene	3.1	13	2.5 J /J	11 J
1,1,2,2-Tetrachloroethane	3.1	22	Not Detected	Not Detected
Acetone	12	30	65	160
Carbon Disulfide	12	39	Not Detected	Not Detected
trans-1,2-Dichloroethene	12	50	13	53
2-Butanone (Methyl Ethyl Ketone)	12	37	19	58
Bromodichloromethane	12	84	Not Detected	Not Detected
4-Methyl-2-pentanone	12	52	7.2 J /J	30 J
2-Hexanone	12	52	Not Detected	Not Detected
Dibromochloromethane	12	110	Not Detected	Not Detected
Bromoform	12	130	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106EF1DECA

ID#: 0212471A-01A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	t122814	Date of Collection:	12/18/02
Dil. Factor:	6.20	Date of Analysis:	12/28/02

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106IN1DECA

ID#: 0212471A-02A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	t122815	Date of Collection:	12/18/02
Dil. Factor:	134	Date of Analysis:	12/28/02

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	67	140	Not Detected	Not Detected
Vinyl Chloride	67	170	1400	3500
Bromomethane	67	260	Not Detected	Not Detected
Chloroethane	67	180	2400	6300
1,1-Dichloroethene	67	270	24 J /J	95 J
Methylene Chloride	67	240	1100	3900
1,1-Dichloroethane	67	280	660	2700
cis-1,2-Dichloroethene	67	270	5000	20000
Chloroform	67	330	37 J /J	180 J
1,1,1-Trichloroethane	67	370	520	2900
Carbon Tetrachloride	67	430	Not Detected	Not Detected
Benzene	67	220	17000	55000
1,2-Dichloroethane	67	280	110	450
Trichloroethene	67	360	150	830
1,2-Dichloropropane	67	310	20 J /J	96 J
cis-1,3-Dichloropropene	67	310	Not Detected	Not Detected
Toluene	67	260	5500	21000
trans-1,3-Dichloropropene	67	310	Not Detected	Not Detected
1,1,2-Trichloroethane	67	370	Not Detected	Not Detected
Tetrachloroethene	67	460	240	1600
Chlorobenzene	67	310	370	1700
Ethyl Benzene	67	300	1200	5100
m,p-Xylene	67	300	4700	21000
o-Xylene	67	300	1200	5300
Styrene	67	290	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	67	470	Not Detected	Not Detected
Acetone	270	650	1300	3100
Carbon Disulfide	270	850	Not Detected	Not Detected
trans-1,2-Dichloroethene	270	1100	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	270	800	600	1800
Bromodichloromethane	270	1800	Not Detected	Not Detected
4-Methyl-2-pentanone	270	1100	310	1300
2-Hexanone	270	1100	Not Detected	Not Detected
Dibromochloromethane	270	2300	Not Detected	Not Detected
Bromoform	270	2800	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106IN1DECA

ID#: 0212471A-02A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name: t122815	Date of Collection: 12/18/02
Dil. Factor: 1.34	Date of Analysis: 12/28/02

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106IN2DECA

ID#: 0212471A-03A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	t122816	Date of Collection: 12/18/02
Dil. Factor:	139	Date of Analysis: 12/28/02

Compound	Rpt. Limit (ppbv)	Rpt. Limit (uG/m3)	Amount (ppbv)	Amount (uG/m3)
Chloromethane	70	140	Not Detected	Not Detected
Vinyl Chloride	70	180	970	2500
Bromomethane	70	270	Not Detected	Not Detected
Chloroethane	70	190	2400	6500
1,1-Dichloroethene	70	280	20 J /J	80 J
Methylene Chloride	70	240	980	3400
1,1-Dichloroethane	70	280	620	2500
cis-1,2-Dichloroethene	70	280	4700	19000
Chloroform	70	340	26 J /J	130 J
1,1,1-Trichloroethane	70	380	510	2800
Carbon Tetrachloride	70	440	Not Detected	Not Detected
Benzene	70	220	17000	56000
1,2-Dichloroethane	70	280	110	440
Trichloroethene	70	380	160	900
1,2-Dichloropropane	70	330	Not Detected	Not Detected
cis-1,3-Dichloropropene	70	320	Not Detected	Not Detected
Toluene	70	270	5200	20000
trans-1,3-Dichloropropene	70	320	Not Detected	Not Detected
1,1,2-Trichloroethane	70	380	Not Detected	Not Detected
Tetrachloroethene	70	480	250	1700
Chlorobenzene	70	320	360	1700
Ethyl Benzene	70	310	1100	5000
m,p-Xylene	70	310	4700	21000
o-Xylene	70	310	1200	5100
Styrene	70	300	Not Detected	Not Detected
1,1,2,2-Tetrachloroethane	70	480	Not Detected	Not Detected
Acetone	280	670	1300	3000
Carbon Disulfide	280	880	Not Detected	Not Detected
trans-1,2-Dichloroethene	280	1100	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	280	830	600	1800
Bromodichloromethane	280	1900	Not Detected	Not Detected
4-Methyl-2-pentanone	280	1200	320	1300
2-Hexanone	280	1200	Not Detected	Not Detected
Dibromochloromethane	280	2400	Not Detected	Not Detected
Bromoform	280	2900	Not Detected	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106IN2DECA

ID#: 0212471A-03A

MODIFIED EPA METHOD TO-14 GC/MS FULL SCAN

File Name:	**t122816**	**Date of Collection:**	**12/18/02**
Dil. Factor:	**139**	**Date of Analysis:**	**12/28/02**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106EF1DECA

ID#: 0212471B-01A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y122707	Date of Collection:	12/18/02
Dil. Factor:	1.00	Date of Analysis:	12/27/02
		Date of Extraction:	12/20/02

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	Not Detected
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected
1,4-Dichlorobenzene	1.0	Not Detected
1,2-Dichlorobenzene	1.0	0.87 J
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	Not Detected
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	Not Detected
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	Not Detected
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106EF1DECA

ID#: 0212471B-01A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y122707	Date of Collection:	12/18/02
Dil. Factor:	1.00	Date of Analysis:	12/27/02
		Date of Extraction:	12/20/02

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	Not Detected
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	77	50-150
Phenol-d5	76	50-150
Nitrobenzene-d5	80	50-150
2-Fluorobiphenyl	73	60-120
2,4,6-Tribromophenol	76	50-150
Terphenyl-d14	80	60-120

1/2/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106IN1DECA

ID#: 0212471B-02A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y122708	Date of Collection:	12/18/02
Dil. Factor:	1.00	Date of Analysis:	12/27/02
		Date of Extraction:	12/20/02

Compound	Rpt. Limit (ug)	Amount (ug)
Phenol	5.0	Not Detected
bis(2-Chloroethyl) Ether	1.0	0.73 J
2-Chlorophenol	5.0	Not Detected
1,3-Dichlorobenzene	1.0	Not Detected
1,4-Dichlorobenzene	1.0	3.9
1,2-Dichlorobenzene	1.0	8.4
2-Methylphenol (o-Cresol)	5.0	Not Detected
N-Nitroso-di-n-propylamine	1.0	Not Detected
4-Methylphenol	5.0	Not Detected
Hexachloroethane	1.0	Not Detected
Nitrobenzene	1.0	Not Detected
Isophorone	1.0	Not Detected
2-Nitrophenol	5.0	Not Detected
2,4-Dimethylphenol	5.0	Not Detected
bis(2-Chloroethoxy) Methane	1.0	Not Detected
2,4-Dichlorophenol	5.0	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected
Naphthalene	1.0	1.0
4-Chloroaniline	10	Not Detected
Hexachlorobutadiene	1.0	Not Detected
4-Chloro-3-methylphenol	5.0	Not Detected
2-Methylnaphthalene	1.0	0.47 J
Hexachlorocyclopentadiene	20	Not Detected
2,4,6-Trichlorophenol	5.0	Not Detected
2,4,5-Trichlorophenol	5.0	Not Detected
2-Chloronaphthalene	1.0	Not Detected
2-Nitroaniline	10	Not Detected
Dimethylphthalate	5.0	Not Detected
Acenaphthylene	1.0	Not Detected
2,6-Dinitrotoluene	5.0	Not Detected
3-Nitroaniline	10	Not Detected
Acenaphthene	1.0	Not Detected
2,4-Dinitrophenol	20	Not Detected
4-Nitrophenol	20	Not Detected
2,4-Dinitrotoluene	5.0	Not Detected
Dibenzofuran	1.0	Not Detected
Diethylphthalate	5.0	Not Detected
Fluorene	1.0	Not Detected
4-Chlorophenyl-phenyl Ether	1.0	Not Detected
4-Nitroaniline	10	Not Detected
4,6-Dinitro-2-methylphenol	10	Not Detected

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106IN1DECA

ID#: 0212471B-02A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y122708	**Date of Collection:**	12/18/02
Dil. Factor:	1.00	**Date of Analysis:**	12/27/02
		Date of Extraction:	12/20/02

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	24
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J = Estimated value.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	63	50-150
Phenol-d5	76	50-150
Nitrobenzene-d5	81	50-150
2-Fluorobiphenyl	77	60-120
2,4,6-Tribromophenol	73	50-150
Terphenyl-d14	84	60-120

LH 1/22/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106IN2DECA

ID#: 0212471B-03A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y122709	**Date of Collection:**	12/18/02
Dil. Factor:	1.00	**Date of Analysis:**	12/27/02
		Date of Extraction:	12/20/02

Compound	Rpt. Limit (ug)	Amount (ug)	
Phenol	5.0	Not Detected	
bis(2-Chloroethyl) Ether	1.0	0.68 J	/J
2-Chlorophenol	5.0	Not Detected	
1,3-Dichlorobenzene	1.0	Not Detected	
1,4-Dichlorobenzene	1.0	3.5	
1,2-Dichlorobenzene	1.0	7.8	
2-Methylphenol (o-Cresol)	5.0	Not Detected	
N-Nitroso-di-n-propylamine	1.0	Not Detected	
4-Methylphenol	5.0	Not Detected	
Hexachloroethane	1.0	Not Detected	
Nitrobenzene	1.0	Not Detected	
Isophorone	1.0	Not Detected	
2-Nitrophenol	5.0	Not Detected	
2,4-Dimethylphenol	5.0	Not Detected	
bis(2-Chloroethoxy) Methane	1.0	Not Detected	
2,4-Dichlorophenol	5.0	Not Detected	
1,2,4-Trichlorobenzene	1.0	Not Detected	
Naphthalene	1.0	0.95 J	/J
4-Chloroaniline	10	Not Detected	
Hexachlorobutadiene	1.0	Not Detected	
4-Chloro-3-methylphenol	5.0	Not Detected	
2-Methylnaphthalene	1.0	0.43 J	/J
Hexachlorocyclopentadiene	20	Not Detected	
2,4,6-Trichlorophenol	5.0	Not Detected	
2,4,5-Trichlorophenol	5.0	Not Detected	
2-Chloronaphthalene	1.0	Not Detected	
2-Nitroaniline	10	Not Detected	
Dimethylphthalate	5.0	Not Detected	
Acenaphthylene	1.0	Not Detected	
2,6-Dinitrotoluene	5.0	Not Detected	
3-Nitroaniline	10	Not Detected	
Acenaphthene	1.0	Not Detected	
2,4-Dinitrophenol	20	Not Detected	
4-Nitrophenol	20	Not Detected	
2,4-Dinitrotoluene	5.0	Not Detected	
Dibenzofuran	1.0	Not Detected	
Diethylphthalate	5.0	Not Detected	
Fluorene	1.0	Not Detected	
4-Chlorophenyl-phenyl Ether	1.0	Not Detected	
4-Nitroaniline	10	Not Detected	
4,6-Dinitro-2-methylphenol	10	Not Detected	

LH 1/21/03

AIR TOXICS LTD.

SAMPLE NAME: ACSME106IN2DECA

ID#: 0212471B-03A

MODIFIED EPA METHOD TO-13 GC/MS FULL SCAN

File Name:	y122709	**Date of Collection:**	12/18/02 L
Dil. Factor:	1.00	**Date of Analysis:**	12/27/02
		Date of Extraction:	12/20/02

Compound	Rpt. Limit (ug)	Amount (ug)
N-Nitrosodiphenylamine	10	Not Detected
4-Bromophenyl-phenyl Ether	1.0	Not Detected
Hexachlorobenzene	1.0	Not Detected
Pentachlorophenol	20	Not Detected
Phenanthrene	1.0	Not Detected
Anthracene	1.0	Not Detected
di-n-Butylphthalate	5.0	Not Detected
Fluoranthene	1.0	Not Detected
Pyrene	1.0	Not Detected
Butylbenzylphthalate	5.0	Not Detected
3,3'-Dichlorobenzidine	20	Not Detected
Chrysene	1.0	Not Detected
Benzo(a)anthracene	1.0	Not Detected
bis(2-Ethylhexyl)phthalate	5.0	2.4 J
Di-n-Octylphthalate	5.0	Not Detected
Benzo(b)fluoranthene	1.0	Not Detected
Benzo(k)fluoranthene	1.0	Not Detected
Benzo(a)pyrene	1.0	Not Detected
Indeno(1,2,3-c,d)pyrene	1.0	Not Detected
Dibenz(a,h)anthracene	1.0	Not Detected
Benzo(g,h,i)perylene	1.0	Not Detected

J

J = Estimated value.

Container Type: XAD Tube: VOST

Surrogates	%Recovery	Method Limits
2-Fluorophenol	64	50-150
Phenol-d5	76	50-150
Nitrobenzene-d5	83	50-150
2-Fluorobiphenyl	80	60-120
2,4,6-Tribromophenol	74	50-150
Terphenyl-d14	86	60-120

LH 1/21/03